

R&D funding as a percentage of total sales is 3.5%, but that the average R&D funding for the utility industry is 0.1%. Further, the Company's spending for R&D included in Idaho rates as a recoverable expense was \$196,000 in 2012, or 0.08% of Idaho total electric retail revenue. *Id.* at 2-3. This amount consisted of payments to the Electric Power Research Institute, E-Source, and the Northwest Energy Efficiency Alliance. *Id.* at 3.

Avista now proposes to recover up to \$300,000 per year of *applied R&D* costs from Rider revenue. The Company explains that such R&D could benefit customers in the next one to four years. The Company says that some, but not all, applied R&D projects would likely be implemented on its system. *Id.* at 3.

The Company says its Application is consistent with Governor Otter's Idaho Global Entrepreneurial Mission "iGem" initiative, in which industry supplements university R&D funding provided by the State. *Id.* at 1, 3. The Company says its proposal would enhance educational and training opportunities for future utility employees, and invest revenues from customers into Idaho's economy. *Id.* at 4.

The Company's additional \$300,000 per year of applied R&D funding would be a ceiling and not a requirement that the Company allocate the funding to R&D in any given year. Any remaining balance (not earmarked) would roll over to a future year and, if terminated, the unallocated portion would be added back to the Rider balance. *Id.* at 5.

The Company says it would start the process by issuing a "call for papers" (similar to a "request for interest"). The Company would choose proposals to fund and would contract with each selected proposal's Principal Investigator (the lead scientist/engineer for the proposal). A third-party project manager would be retained to oversee the project and be a liaison to utility staff. The Company would use "stage gate methodology" and project assessment points when structuring proposals and managing projects. *Id.* at 5.

The Company says it would file an annual report by March 31 for the preceding calendar year. The report would include key events during the reporting period (e.g., discussions about the "call for papers," project selection process, project descriptions, project manager, associated contracts, project milestones, research in-progress summaries, etc.) and the accounting for related expenditures. The Company also would include financial reporting in its annual Demand Side Management Report, and would discuss R&D activity at its semi-annual energy efficiency Advisory Group meetings and public interest webinars. *Id.* at 8.

Avista says it has notified the public about the revisions proposed in its Application by posting notice on its website, www.avistautilities.com. *Id.* at 9.

STAFF REVIEW

Staff's review of Avista's request to fund a maximum of \$300,000 annually in electric efficiency research and development from the Rider focused on four main issues: 1) the difference between basic and applied research, 2) jurisdictional allocation, 3) the changing energy efficiency landscape, and 4) the funding level. These issues are discussed below.

1. Difference between basic and applied research.

Staff first investigated the distinction between "basic research" and "applied research." The Company's Application proposes to finance applied research, not basic research, with rates collected from customers through the Rider. Basic research typically does not provide near-term, practical benefits to customers but instead is foundational, exploratory and designed to answer questions about fundamental principles. Applied research, on the other hand, builds on previously conducted basic research and is deliberately constructed to have a much higher likelihood of producing near-term practical benefits. Staff does not necessarily oppose the Company funding basic research. However, Staff believes it would be inappropriate for the Company to use ratepayer funds for basic research that is unlikely to provide near-term, practical benefits to customers. Because Avista's applied research funding proposal is designed to provide practical, near-term benefits to Idaho customers, Staff believes it is appropriate to consider allowing the Company to recover the proposed R&D investment through the Rider.

2. Jurisdictional allocation.

Staff also investigated how R&D costs would be allocated between Avista's Idaho and Washington service territories. While Avista's Application here requests to recover up to \$300,000 annually from Idaho customers for R&D, the Company has not made a similar request in Washington. Because applied research funded by Idaho customers will result in direct benefits system-wide, it is reasonable to conclude that Washington customers will receive benefits without incurring any costs.

While concerned that the costs and benefits of energy efficiency research and development are properly allocated, Staff recognizes the difficulty in limiting the benefits to a particular service territory. Staff agrees with Avista's response in discovery that: "Utilities

frequently pioneer new concepts and, then, present the details at conferences, or by hosting site visits, and/or through trade publications. Further, Avista customers benefit from R&D expenditures from other utilities as well. Examples of this include benefits from the California investor-owned utilities participation in research consortiums [for consumer electronics] and Bonneville Power Administration's contribution to regional and national (through EPRI) research.”

Also, Avista has provided approximately \$500,000 to Washington State University for research, reporting, and compliance of grid modernization work. Because this work was specific to Pullman, Washington, these costs were charged to the Washington jurisdiction. However, the analysis around system design, customer behavior, evaluation and measurement of voltage optimization could provide benefits to Idaho customers when similar projects are implemented in Idaho.

Staff also notes that it has previously supported and the Commission has authorized utilities' participation in regional organizations, such as the Regional Technical Forum (“RTF”), that provide benefits extending far beyond the funding region. The RTF publishes measure-level energy savings estimates, standard protocols, and evaluation guidelines that are free to anyone who goes to the RTF's website. These data and efforts are funded exclusively by Northwest utilities (including all three Idaho investor-owned utilities), but the benefits spill over nationally and internationally—with no objection from funders. Each funder understands that its ratepayers are largely indifferent to ancillary benefits as long as they receive value from the investment.

Spillover effects can also add to the value of an investment by solidifying efficiency gains and preventing the need for future funding. NEEA's recent success transforming the regional television market, an effort that was funded exclusively by western utilities, spilled over and also transformed the national television market. National traction on regionally funded initiatives benefits the funders by making regional retailers less likely to revert to buying and selling less efficient products without receiving on-going incentives from NEEA. A similar dynamic could result if Avista's R&D funding encourages other utilities to invest in research that benefits Avista's ratepayers.

Although some aspects of R&D may extend beyond Avista's Idaho service territory, it is important to recognize that not all benefits spill over. Staff points out that because the entire

R&D funding amount will be invested exclusively in Idaho universities, the resulting economic and employment benefits will only occur in Idaho.

3. Changing Energy Efficiency Landscape.

Staff also considered the changing landscape of demand-side management (“DSM”). Until recently, nearly all energy efficiency programs have been “widget” based— incenting customers to replace standard-efficiency equipment with more efficient equipment. This approach has been successful, but it is becoming less effective as baseline equipment efficiencies increase and declining avoided costs compound cost-effectiveness challenges. Under these new circumstances, R&D to create new approaches for acquiring cost-effective efficiency and evaluating those new approaches becomes extremely important.

Staff believes Avista lists several potential research areas that could perform these critical functions. In particular, Staff is encouraged by the Company’s consideration of research topics related to Advanced Metering Infrastructure data analysis, and the impact of human factors like comfort, preference, and behavior on energy efficiency acquisitions. Both research areas are likely to provide insights that could inform program design and produce cost-effective energy savings in the post-widget era of DSM. Advances in these areas would directly benefit Avista’s Idaho ratepayers.

Research to improve Evaluation, Measurement, and Verification methodologies while reducing associated costs could also benefit ratepayers. Avista spent about \$1 million over the past three years evaluating its Idaho programs. The cost to verify energy savings is an important and regular expense. Investing in applied research that could effectively reduce that cost could directly benefit Idaho ratepayers.

4. Funding Level

Lastly, Staff examined the requested R&D funding and found that the proposed amount is reasonable when compared to the Company’s total energy efficiency expenses. On average, Avista spends about \$6.6 million annually on energy efficiency. The \$300,000 proposed R&D funding amount is about 4.4% of Avista’s annual DSM expenditures.

Staff believes that prudent DSM portfolios include a variety of approaches to acquiring current and future energy savings. The purpose of R&D funding shares some similarities with NEEA’s market transformation programs because it reduces the risk associated with a DSM portfolio comprised only of utility-administered programs. Avista currently pays NEEA about

\$590,000 annually, which is 9% of Avista's total annual DSM expense. Staff believes that 4.4% for R&D funding falls within a reasonable range when compared to other non-traditional energy efficiency investments like NEEA.

Based on its analysis, Staff supports Avista's Application to accumulate and account for up to \$300,000 of R&D funding through ratepayer Rider funds. Staff's support for the accounting mechanism proposed here is not an advance recommendation that Staff would view any particular expenditure as prudent. Staff will analyze the prudence of the Company's DSM expenditures, including R&D expenses, in the Company's next DSM prudency case. Staff agrees that R&D should not be held to traditional cost-effectiveness standards. Instead, Staff will review the Company's R&D activities and expenditures for compliance with the management, stage-gate methodology, and reporting procedures described in the Application.

RECOMMENDATION

Staff recommends that the Commission approve Avista's request to provide up to \$300,000 from Schedule 91 annually to fund selected electric energy efficiency research and development projects proposed and implemented by the state of Idaho's four-year universities.

Respectfully submitted this 21st day of October 2013.



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CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 21ST DAY OF OCTOBER 2013, SERVED THE FOREGOING **COMMENTS OF THE COMMISSION STAFF**, IN CASE NO. AVU-E-13-08, BY E-MAILING AND MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

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